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The LEGO System Makes Co-Creation Painless for the LEGO Group

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The LEGO® System Makes Co-Creation Painless for The LEGO® Group

Research by Seth Peacock

Adult Fans of LEGO

- Are referred to with the acronym: AFOLs.
- Account for 5% of total LEGO sales.
- Each spend, on average, 20 times more on LEGO than a family with children.
- Build sculptures, dioramas, functional robots, scale models, and more.
- Have LUGs (LEGO Users Groups).
- Maintain community resources such as:
 - Online forums (ex. Eurobricks)
 - Photo-sharing sites (ex. Brickshelf)
 - Markets such as Bricklink.com, where fans can buy individual LEGO parts from resellers.
- Host LEGO conventions such as BrickFair and BrickFest where thousands of AFOLs can show off their creations to each other and the public.



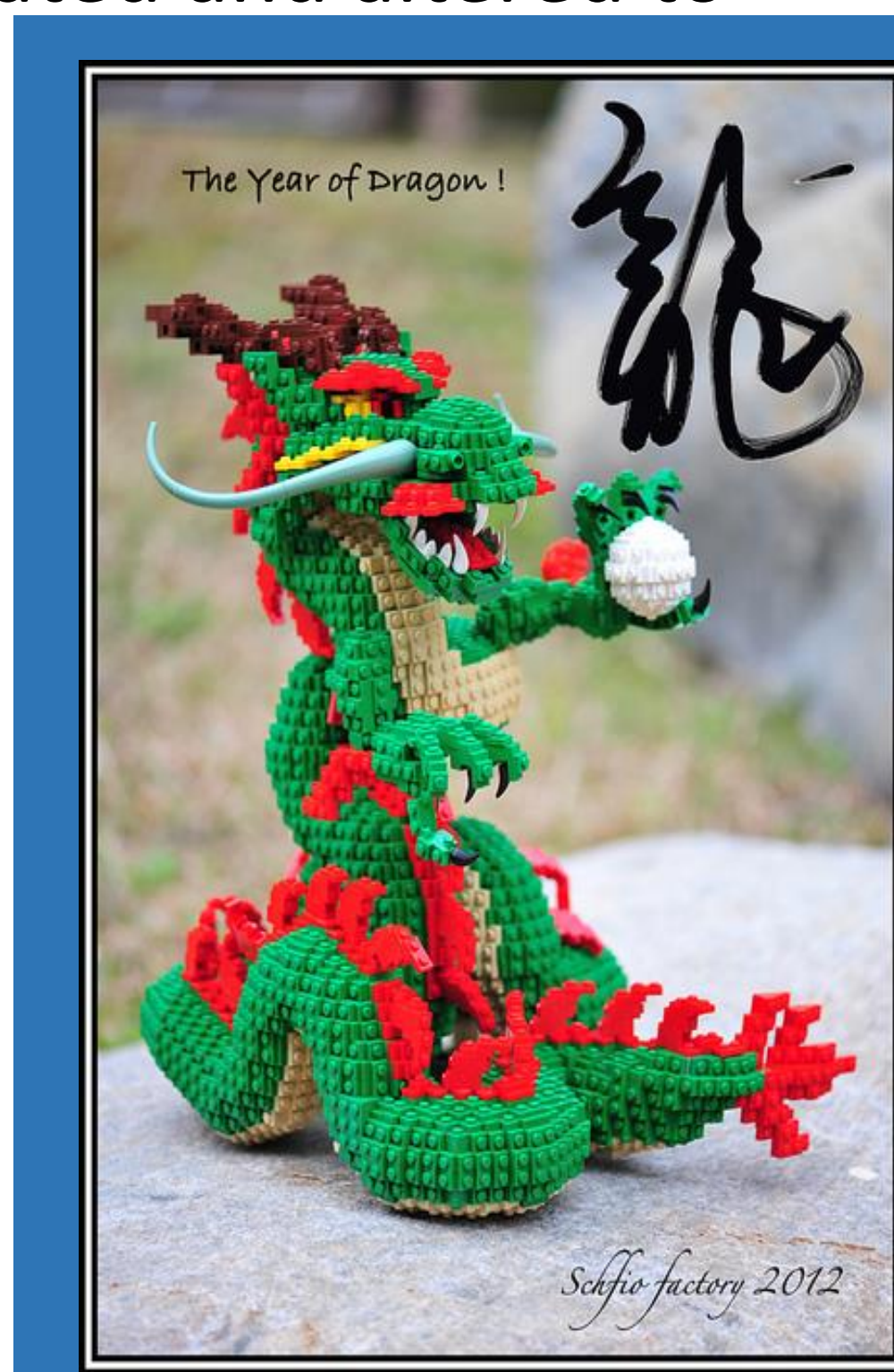
A crowd at BrickFair; Thomas Mueller; "GBOCG GBC Height," Flickr; Yahoo; 3 August 2014; Web; 5 April 2016

An Example of LEGO Consumer Innovation

Unlike co-creation, consumer innovation occurs apart from the firm. The existence of consumer innovation facilitates co-creation. This example illustrates AFOL's innovation with the LEGO system. Studs-Not-On-Top (SNOT) building was advanced by the **Lowell Sphere**, first posted online in 2003 by Bruce Lowell. The small, curved shape is useful in LEGO sculptures. It is elongated and altered to form this dragon's body.



The Lowell Sphere from Bruce Lowell, "Lowell Sphere," Bruce Lowell; Lego Artist; Bruce Lowell; n.d.; Web; 8 Dec. 2015.



Schfio; "DSC_2030xx;" Flickr; Yahoo; 21 Jan. 2012; Web; 8 Dec. 2015.

Co-Creation: Cooperating with consumers to create product innovations
Despite historical reluctance to co-create and cooperate with adult LEGO fans, the LEGO Group is now a prolific co-creator.

An observation of the LEGO Group's co-creation efforts reveals that the LEGO system itself inspires and facilitates co-creation.

Most co-creation research focuses on the firm's co-creation protocols and initiatives, but there is little research on the relative suitability of products to co-creation. This investigation reveals **four qualities** of the LEGO system which facilitate co-creation.

LEGO Architecture

First designed by AFOL Adam Tucker, LEGO executives were skeptical about the premium pricing. With little upfront investment (Tucker packaged the first run of sets in his garage), the Architecture line was a success, allowing the LEGO Group access to new demographics through souvenir shops and bookstores.

- **Independent LEGO Communities:** The line was inspired by the models Tucker built personally and displayed at LEGO fan events
- **LEGO is a System:** A novel use of the LEGO system: made for display, targeted at adults and marketed through nontraditional means

LEGO Hobby Train

The LEGO Group recruited 10 international AFOLs, gave them a palette of 1,800 specific pieces, and requested they design a LEGO train set. The AFOL's train-building expertise lead them to propose a more versatile and train-appropriate parts palette far superior to the original palette, and went on to design 72 train models

- **Play Mirrors Design:** AFOLs had a better understanding of LEGO train design than LEGO employees
- **LEGO is Modular:** Allowed for the easy-to-communicate "parts palette" design limitation and the "alternate model" conceit

LEGO MINDSTORMS NXT

When the original LEGO MINDSTORMS robotics kit was released, the AFOL community quickly hacked the base programing. They proceeded to create robots with more complex programing and mechanics than the LEGO Group had thought possible. Instead of persecuting the hackers, the set designers were inspired to create the 2nd iteration of MINDSTORMS in cooperation with prominent members of the community.

- **Play Mirrors Design:** The programming and mechanical backgrounds of the AFOLs, alongside their LEGO expertise, made them highly qualified to help design the new system
- **Independent LEGO Communities:** The community innovated with MINDSTORMS even when the LEGO Group did not, driving sales of the product even when it was not officially promoted
- **LEGO is a Modular:** AFOLs helped design new parts, including sensors, computer components, and the Hassinpin element, as well as designing complete MINDSTORMS models

Many thanks to the VCU Honors College and my mentor, Professor Mary Boyes.

Four Qualities which Facilitate Co-Creation

If a firm's product possesses one or more of these qualities, co-creation may yield profitable innovations with little investment. If it does not, co-creation may still be beneficial, but firms should expect obstacles which the LEGO Group has avoided.

LEGO Ideas

Formerly LEGO CUUSOO. Launched in 2008, users post their set ideas ("projects") online. Upon receiving 10,000 votes, a project is considered for production as an official set.

- **LEGO is Modular:** Users can prototype their set proposals accurately and easily with their own LEGO elements
- **LEGO is a System:** LEGO's ability to harness diverse areas of expertise due to a versatile product is evidenced
 - **LEGO Wall-E:** By Pixar animator Angus MacLane
 - **LEGO Minecraft:** Licensing the block-based videogame did not occur to the LEGO Group until proposed here
 - **LEGO Birds:** By avid birdwatcher Thomas Poulsom



Left: The Lego Group; "21005-0000-xx-23-1.jpg;" Brickset; Brickset Ltd.; n.d.; Web; 10 Dec. 2015. Center: Image taken from BrickLink.com "Technic, Pin Connector Perpendicular 3 x 3 Bend with 4 Pins" 3D Viewer; Web; April 5, 2016. Right: "WALL-E;" Lego Ideas; The Lego Group; 2 Dec. 2015; Web; 9 Dec. 2015.

These resources were particularly helpful in my research, and I would recommend them to anyone interested in co-creation or LEGO:

- Antorini, Yun Mi, and Albert M. Muñoz Jr. "The Benefits and Challenges of Collaborating with User Communities." *Research Technology Management* 56.3 (2013): 21-28. ProQuest. Web. 14 Sept. 2015.
- Debruyne, Marion. "Connect Using the First Lens: Zooming into the Customer: Five Practices." *Customer Innovation*. London: Kogan Page, 2014. 19-52. Print.
- Hicks, Mark. "Collaborate to Innovate? Getting Fresh Small Company Thinking into Big Company Innovation." *Interactions*. ACM, May-June 2010: 39-43. Print. Web. 10 Dec. 2015.
- Robertson, David C. *Brick by Brick: How Lego Rewrote the Rules of Innovation and Conquered the Global Toy Industry*. New York: Crown Publishing Group, 2013. 13-92. Print.
- Sawaya, Nathan. "Lego: The Imperfect Art Tool." *Lego Studies: Examining the Building Blocks of a Transmedial Phenomenon*. Ed. Mark Wolf. New York: Routledge, 2014. 206-215. Print.

Play Mirrors Design

Do users of your product develop product development skills?

- If a consumer is good at building with LEGO, they will be proficient in LEGO set design
- In contrast, a software user is unlikely to be a good software developer, as company Vodafone can attest
- In LEGO system knowledge, AFOLs exceed the LEGO Group's expectations, requiring less training with product design tools

Independent LEGO Communities

Are users independently innovating with your product?

- Companies such as Starbucks and Adidas invest capital in maintaining user communities
- LEGO communities are consumer-driven, requiring no investment by the LEGO Group
- A diversity of niche-filling innovations occur
- While many of these innovations are unsuitable to official production, the LEGO Group can harness useful innovations without having invested in unsuitable ones

LEGO is a System

Is your product versatile or system-based?

- LEGO has few aesthetic or functional limitations: few limits on innovation
- Innovation can be divergent (looking for entirely new ideas) rather than convergent (trying to improve an established product).
- The strength of co-creation is harnessing expertise which consumers have but the firm does not; the versatility of LEGO allows more diverse areas of expertise to be utilized

LEGO is Modular

Is your product modular?

- LEGO co-creation is viable on three levels: the design of individual LEGO elements, the design of LEGO sets made of many elements, and the design of LEGO product lines (themes)
- LEGO is easy to prototype with; an AFOL can create a prototype set with their own elements, and prototypes are easily adjusted